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ABSTRACT

This study examines children's interpretations of a visual convention used in television interviews and incorporates as a framework Flavell's theory of the development sequence of understanding television (1990). Thirty-four children were individually shown a videotape of two people talking in an interview on a television news program. Children answered questions about who sees what and what's "really and truly" happening in the visual. The children were also engaged in a task which determined their levels of perspective-taking ability and their idea of what people look like when they talk to each other in three-dimensional, real-world situations. Performances revealed age to be significant. Other factors (sex, perspective taking, and understanding conventions of conversation in the three-dimensional world) were questionable. The researcher speculates that using a different videotaped segment would yield more significant results. Findings relate to previous studies by Comuntzis-Page and others on children's interpretations of television's formal features. Findings also pertain to the work of Flavell and other developmentalists on perspective taking and appearance-reality phenomena. (Contains 24 references.) (Author/AEF)

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A Preliminary Study on Children's Understanding of a Visual Used in Television Interviews

by Georgette Comuntzis-Page

Abstract

This study examines children's interpretations of a visual convention used in television interviews and incorporates as a framework Flavell's theory of the developmental sequence of understanding television (1990). Thirty-four children were individually shown a videotape of two people talking in an interview on a television news program. The child answered questions about who sees what and what's "really and truly" happening in the visual. The researcher also engaged the child in a task which determined his or her level of perspective-taking ability and his or her idea of what people look like when they talk to each other in three-dimensional, real-world situations. Performances revealed age to be significant. Other factors (sex, perspective taking, and understanding conventions of conversation in the 3-D world) were questionable. The researcher speculates that using a different videotaped segment would yield more significant results. Findings relate to previous studies by Comuntzis-Page (in press) and others on children's interpretations of television's formal features. Findings also pertain to the work of Flavell and other developmentalists on perspective taking and appearance-reality phenomena.

This study is the latest attempt in the author's quest to discover the progression of young children's comprehension of the forms of visual media. Content has been and continues to be a concern of those who try to flesh out the effects television has on children. To date, however, few conclusions have been reached about the direct effects of such content on children. Understanding how young viewers comprehend a medium's forms rather than its content lays a more fertile ground on which to conduct studies which try to reveal the intricacies of the young child's relationship to visual media.

When children are very young, they begin to interact with the signs and symbols within the visual-spatial realm of knowledge. They understand spatial concepts and visual forms in ways which change as they grow. Television is an omnipresent source of visual-spatial information for many young children. Research in the fields of visual communication and child development shows that as young viewers mature, they understand the conventions of visual media, their formal features, in ways which often are different from adults. The purpose of this study is to examine how and when young viewers begin to understand a relatively new visual used in television interviews.

Traditionally, producers of television interviews have incorporated the filmic dialogue convention in which two people are shown conversing by using the long-shot (LS), over-the-shoulder (OS) of one person to the other, close-up (CU) of the person whose back was to the audience in the OS, followed by another CU of the other person. Visual communication scholars (e.g., Monaco, 1977; Zettl, 1990) explain that this sequence of shots engages viewers and allows them to see what is going on from various points of view. Zettl (1990) defines the index vector, an invisible line, which connects two people who are facing each other. In his textbooks, he instructs students of television production to keep camera on the same side of the vector line to ensure that viewers are not confused by the space being depicted (in press). As a result of these subtle cues, viewers have an understanding of the connection between the two people who are conversing.

Paying attention to vector lines and using the sequence of shots in dialogue scenes are conventions which are well-established in the world of film and television production; however, another technique has emerged in television

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interviews in which two people, actually in two different spaces (e.g., one is in his office, the other outside the building), converse. Even though they are separately framed next to each other on the television screen and look directly into the camera (not at each other), sophisticated viewers "buy into" the notion that the two people are engaged in conversation just as if they were in the same room. How is it that viewers see the two people talking to each other? Visually, what happens to the index vector between the two people as they look into the camera to speak? Do naive viewers know that the people are talking to one another or do they think that they are only addressing the viewers? (Actually, the two people are not talking exclusively to the viewers; they really are carrying on a conversation with the other person.) Do young viewers know that the two conversing do not see each other and that they only appear to be in the same space as they talk to each other?

Developmental Issues

Researchers have tried to relate the two fields of child development and visual communication by studying children's comprehension of televised reality (e.g., Condry & Freund, 1989; Dorr, 1983; Hawkins, 1977; Jaglom & Gardner, 1981). Findings from studies such as these have informed us only about children's comprehensions of the far away referents, not the objects on the screen.

Relating more to the idea of depiction, Wright, Huston, Reitz, and Piemyak (1994) address the appearance-reality distinction in their examination of children's ability to determine the "factuality and social realism" judgements of 5- and 7-year olds' favorite television programs. The researchers found that children determined a program's factuality by its genre and that they decided what type of genre a program is by its formal features and its content. Age and vocabulary scores were found to be significant factors in how well children knew about the program's factuality; social realism was closely related more to children's viewing history than to age and vocabulary.

Other investigations have looked at the form of the visuals (e.g., Smith, Anderson, & Fischer, 1985; Calvert, Huston, Watkins, & Wright, 1982; Singer & Singer, 1981; Wright, & Huston, 1983). Their results show that age is the most important determinant in how children relate to various forms. Although these studies are significant, none has isolated a single production technique.

There have been studies done in which the researchers focused on form more specifically by using production techniques, one by one, in their investigations. Salomon (1979) tested 7-year-old children in a study which showed that different camera angles could supplant children's mental capabilities. Acker (1981) looked at the types of lenses (long, short or normal in children's interpretations of velocity. Acker and Tiemens (1981) compared the use of zooms and cuts to see how young children interpreted an image of a candy bar. Kipper (1985) determined viewers' perceptions of objects shown by using different types of camera movement. Comuntzis (1987) investigated a younger sample, 3- to 6-year-olds, to find that children around 5 years old, who have spatial ability (operationalized by their performances on a three-dimensional perspective-taking task), have an understanding of the different viewpoints of actors who are depicted in a dialogue scene. These notable studies look at one type of production technique and relate it to aspects of child development to determine children's comprehension of that form. As a result, they offer insight into the child's concept of the representation of reality in visual media.

Television Interviews

The theory of John Flavell and colleagues offers a framework for understanding the ways in which children comprehend the visual forms of television interviews. Flavell and colleagues have looked at perspective taking and appearance-reality (e.g., 1986, 1989, 1990) and continue to elaborate upon these two theories. According to Flavell and others, children begin to understand that what they see is different from what others see in different viewing positions (Level 1 perspective taking). Later, they develop a higher level of understanding by recognizing that an object can appear different to different people (Level 2 perspective taking). The researchers state that a related form of

understanding is the appearance-reality distinction in which children at certain ages, depending on the type of task determine that an object may seem different from the way it really is (Flavell, Green, & Flavell, 1989).

In another study, Flavell and colleagues related their theories to television by examining 3- and 4-year-olds' understanding of images depicted on the screen (Flavell, Flavell, Green, & Korfmacher, 1990). They found 3-year-olds made mistakes when asked whether a bowl of popcorn shown on TV would spill if the television set were turned upside down; many said yes. The researchers determined that these 3-year-olds did not think that the bowl of popcorn was actually inside the set. Rather, children's responses indicated a basic lack of cognitive ability to separate the image from the object it represented (its referent). The findings suggest that understanding televised images is related to the ability to discern different perspectives and to differentiate between objects which are real and those which appear to be real (Flavell, Flavell, & Korfmacher, 1990). When children start understanding the nature of representing objects two-dimensionally, that is, their depictions, they may begin to understand other aspects of their televiewing experience.

Out of this line of research, Flavell and colleagues (1990) have proposed a 4-step developmental sequence of children's understanding of television reality. A child is at step 1 when he or she does not distinguish between real objects and those which are depicted on television. The child at this first step has no concept of the things a depicted object can do or have done to it: Its "affordances" (Gibson, 1979) are unknown to the child. For example, children at this step think that people portrayed on television can actually talk to them, hear them, and really see them.

Step 2 is characterized by the child's knowing that what's on TV does not necessarily behave like ordinary objects, that the viewer cannot touch, for instance, or that the objects cannot fall out of the set. The child does not know, however, that the objects refer to objects or events not present. To them, what they see on television is not a representation of something else. Therefore, questions about reality-affordance are not clear to them. For instance, they go back and forth in their answers about whether people shown on the screen in two separate boxes are actually talking to each other.

In step 3, children know that images are depictions of an absent reality. They think that these depictions, however, are faithful to the reality of the object in its portrayal. Referents are always exactly as they seem or appear to the televiewer at the third step of understanding. An example would be the child's seeing two people who are facing the camera and thinking that the two people cannot really see each other.

Finally, children at the last step understand that objects on television can be portrayed realistically or unrealistically, regardless of their referents. For example, they know that the camera manipulates objects to seem like they are doing things that are not possible in the real world-two people framed next to each other, but in reality, not in the same space.

Thus, Flavell's sequence of steps toward children's understanding of television provides a framework for studying their interpretations of specific production techniques. How does this progression of children's understanding relate to their comprehensions of the visual used in television interviews?

Method

Subjects. Thirty-four children (13 girls, 21 boys) were drawn from preschools and child care facilities in a small university town. Their ages ranged from 3 years, 3 months to 6 years, 8 months, with a mean age of 5 years, 1 month.

Procedure. Children were tested separately in a room in their preschool or child care facility. The researcher introduced herself and talked to the child about they were going to do. If the child refused to participate, he or she went back to regular activities. Only three children refused.

All children were given two tasks. In the first task, the child sat in front of a TV/monitor and watched part of a local news program in which two people talked to each other.

The stimulus for the interview was a segment of a news program aired locally. It begins with a close-up (CU) of a man, Bill, telling a news woman, Jennifer, about pelligrens

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and how they can be seen in the community. The CU of Bill is followed by a shot of Bill and Jennifer framed separately on the screen. (See Figure 1.)

Figure 1

TELEVISION INTERVIEW

They talk to each other, yet they look straight into the camera as they are shown in two different spaces situated next to each other on the screen. The backgrounds for each reveals Bill is in his office or home and Jennifer is in some part of the studio, where there are several monitors. Jennifer asks Bill to describe the situation of the pelligrens. He proceeds to do so as Jennifer smiles and looks at the camera in her separate space. The segment ends with Jennifer thanking Bill for sharing the information. As the camera goes back to the studio desk, the researcher stopped the tape.

In order to preserve ecological validity for televised images viewed by the child, the researcher let the child see the segment all the way through before he or she watched it with stopped frames to answer questions about the frozen image. During the testing, the researcher stopped the tape at the point when Bill and Jennifer are shown at the same time. Using Flavell's method for testing the reality-appearance distinction (Flavell, Green, Flavell, 1989) and Comuntzis' method for assessing children's level of perspective taking in a televised dialogue scene (1987, 1991), the researcher asked the child questions about different points of view, followed by questions about the child's understanding of the actual and apparent conversational aspects of the interview. For example, to test the level of perspective-taking ability, the child answered questions about what they saw and what Bill and Jennifer saw such as, "Do you see Bill?" (Level 0). "Does Jennifer see Bill?" (Level 1). "Does Bill see Jennifer's red shirt?" (Level 2).

To test the reality-appearance distinction, the researcher asked questions such as, "*Really* and *truly*, is Bill talking to someone?" "Who?" "*Really* and *truly*, is Jennifer in the same room as Bill?" "Does it look like Jennifer and Bill are in the same room?" "Where is Jennifer?" (The words "really and truly" were used in Flavell and colleagues 1989 study on appearance-reality.)

The second task included the table task used in previous studies by Comuntzis (1987, 1991) in which levels of perspective taking were determined; however, this study used different dolls. Instead of He-man and Captain America, dolls from the current popular television series, Mighty Morphin Power Rangers, were used. The child sat in a chair across from the researcher at a table which displayed Zack and Kimberly, two Power Rangers, situated near blocks with stickers of familiar objects on the sides. The two characters looked at a middle block on which a toy elephant faced Kimberly. (See Figure 2.)

The child and interviewer first talked about the objects--the names of the characters, the names of the objects portrayed in the stickers on the sides of the blocks, the parts of the elephant--in order to make sure the child understood all the terms used in the questioning. The display was fixed so that the seated child saw one side of the blocks and one side of the elephant. The child

Figure 2

TABLE TASK DISPLAY

never had to remember what objects were not within his or her view since the researcher reminded the child where the objects were.

Questions were asked to determine the level of perspective taking for each child. Level 1 is characterized by the child knowing that what he or she sees is different from what another person in a different viewing position sees. "Do you see the elephant?" and "Does Zack see the elephant?" are questions which test this first level. A child is at Level II when he or she knows that a person may see the object

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differently from him or her; that is, they can determine the quality of differences in varied points of view. For instance, "Does Kimberly see the sides of the blocks that you see?" is a question which reveals whether a child is at this second level. The third level of ability is reached when the child knows what an imagined viewpoint is like: "Let's pretend that Kimberly sits down on the table right where she is. Does she see the heart sticker?"

The researcher ended the table task by bringing out two finger puppets (Zack and Jason, another Power Ranger) placed on pencils. She asked the child to "fix the two finger puppets to make them look like they are talking to each other." She then let the child move the puppets to turn them any way he or she wanted them to be. After the child did this, the researcher took the puppets back and fixed them to face the child, not each other, and asked, "What if I do this." (fixing the puppets next to each other, both facing the child). "Can Jason and Zack talk to each other now?" When the child answered, the table task ended.

Scoring. Children were placed at one of the four steps of Flavell's (1990) developmental sequence according to how well they answered questions about the interview visual. They were judged to be at a certain step by their answers on the questions about the different perspectives in the video and about what they thought was really or apparently true. Other variables included their age, sex, whether they thought that people, in three-dimensional situations, could talk to each other if they were not facing each other, and their level of visual-spatial ability (demonstrated by their performance on the perspective-taking table task).

Children were judged to be at a certain step in understanding the interview visual according to Flavell et al.'s (1990) proposed developmental sequence of understanding television. If, in their answers and comments during the video task, children only thought that the two people in the video were really and truly talking to them or seeing them, then they were ranked at step one. According to the theory (Flavell et al., 1990), children who think that objects on TV can interact with them are at the lowest level of understanding.

Children were at step two if they were not sure of the affordances of the people in the video. Unlike those at the first step, these children where aware that the people on the video could not interact with them; however, they still were confused about what the people were doing, for instance, were they or were they not in the same room. If children knew that objects (people) were depicted on television, but they believed that the depictions were true to their referents, they were at the third step. Children at this step refer to the television and what's depicted in absolute terms, relying heavily upon their knowledge of what objects (people) can or cannot do in real-life situations. For instance, these children knew that Bill and Jennifer could hear each other even though they did not see each other.

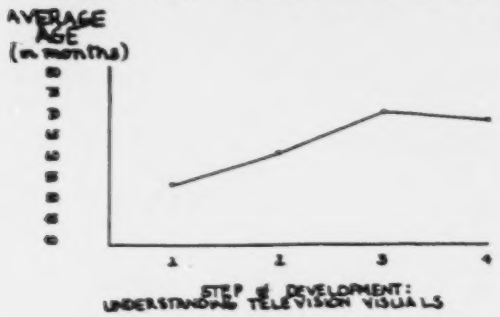
Finally, the children who knew about television's capabilities in making depictions seem real or unreal were at step four in the developmental sequence. These children knew that the two people in the visual were framed by manipulating some kind of camera device, for instance, and that they could hear each other, not because they were next to each other in the same space, but because they were using some kind of mechanism which enabled them to carry on a conversation.

Results

The independent variables in this study included age, sex, perspective-taking level in the table task, and whether the subject thought that people, in a three-dimensional situation, could talk to each other when not facing each other. Of the independent variables used in this preliminary study, age was found to be the significant factor in determining the step of a child's progression toward understanding the visual on TV interviews. Groups of children at steps 1, 2, 3, and 4 were compared to determine at what age they begin to understand the interview visual. (See Figure 3.)

When children at step 1 were compared to those at the highest step (4), age was significant, $t = 2.5$, $p < .01$. The average age for children at step 1 was 54 months, or 4 years, 6 months, whereas the average age of children at step 4 was

Figure 3
AGES AND STAGES OF UNDERSTANDING TELEVISION



69 months, or 5 years, nine months. As well, when the second group of children was compared to the third group, age was found to be significant, $t = -3.40$, $p < .01$, with the average age for step 2 being 61 months, or about 5 years old; step 3 had a mean age of 71 months, or almost 6 years of age.

Other comparisons between groups of children at different steps showed that there were no significant differences between step 1 and 2 and between steps 3 and 4. Therefore, the first two steps were collapsed, as were steps 3 and 4, yielding age as significant, $t = -3.03$, $p < .01$. The average age of the children at step 1 and 2 was almost a year younger (57 months, or 4 years, 9 months) than those at the third and fourth steps (5 years, 11 months).

The most significant separation by age occurred between children at the first step and those at the third step, $t = -3.40$, $p < .001$. The average age of subjects at step 1 was 4 years, 6 months; that of the third step was almost 6 years old (5 years, 11 months).

One of the questions asked by this study concerned children's perceptions of whether the two people in the visual were talking to each other. Results were mixed: Eighteen out of 34 children said that the people were not talking to each other; sixteen said that they were. Children in the first step were most unsure about whether the people were engaged in conversation with each other. Most children at the lowest step said that the two people were talking to them and not to each other, a characteristic of the first step of development in the sequence of understanding television--that the objects on the screen could interact with the viewer. Even though they demonstrated their knowledge in understanding that the people in the visual could not interact with them and that the visual was a depiction of reality, most children at step 3 (six out of seven) showed that they were not convinced that the two people shown on the screen were talking to each other. (This finding may have been the result of the segment which was tape. That is, the two people did not engage in much back-and-forth conversation in the segment.)

Although not significant in separating groups of children at different steps, an interesting finding in the table task was that all children [n = 34], when asked to fix the two hand puppet Power Rangers (Zack & Jason) so that they were talking to each other, made them face each other. When asked whether Zack and Jason could talk to each other if facing out in the same direction (not toward each other), most of the children at the first step said "no" (10 out of 15). Children at steps 2 and 3 were equally divided on their answers. At step 4, however, most said "yes" (4 out of 5).

Subjects' levels of performance on the table task were not significant factors in this study: The average level of ability on the table task was 1.8, almost at the second level of ability.

Discussion

The relatively new way of depicting interviews on the news was the focus of this study, which uses Flavell's proposed developmental sequence of understanding television (1990) as a framework. The results show that the subjects in this study are around 6 years old when they begin to understand that the two people on the screen are depictions, that is, represent two people talking to each other in the same place even though, in reality, they are in two different places and actually can only hear each other.

At the third step, the children in this study are around 6 years old when they know that the images on the screen are depictions of what is real and not the actual object unfiltered through any other level of reality. This finding shows that the quality of this convention used in

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interviews presents more difficulty for children who are older than those used in other studies which examine the reality-appearance distinction (e.g., Flavell et al., 1989, 1990). The finding may enhance the findings of other investigations which look at reality-appearance of televised elements (e.g., Wright et al, 1994).

This study also addressed the child's perspective-taking ability in a three-dimensional situation. Children's perspective-taking knowledge did not play an important role in their understanding of this visual. This finding is predictable since the visual does not challenge the viewer's ability to know about different viewpoints: The visual shows no reverse-angles, only shots wherein two people look straight into the camera. Whether the visual is comprehended may relate more to the viewer's skill in knowing that what they see on television is a representation of reality, which can be manipulated by those who produce what is shown on the screen. The children who were at steps 3 and 4 understood that what they saw was a depiction of two people on television presumably talking in second-order space, or space which was one level removed from the "reality" of the live-action at the news desk.

Conclusion

A major problem with this study has to do with the stimulus tape used did not present the convention as accurately as it could have done. In subsequent investigations, another tape which shows the 2 people conversing for a longer period of time will be used. Because of the poor quality of the tape, results were somewhat inconclusive.

Nevertheless, looking at the results as exploratory, age is significant. Around 6 years of age, children in this study indicate an awareness that what they see on TV is not actually "there." This study also shows that children around 4 and a half years have not yet begun to know about the elements of the pictured conversation between two people framed separately but next to each other on the screen; they are confused about the immediacy factor and about what the objects they see on the screen afford them as viewers.

By focusing in on one type of televised depiction, this study contributes more information to the study of production techniques which may or may not present problems to young viewers. In future research, looking at this type of phenomenon from another point of view may be even more instructful. Messaris (1994) asserts that seeking to find the cognitive consequences of visual "literacy" is pertinent to our learning about the relationship between visual media and young viewers. Perhaps the theory of Flavell (1990) on the development of understanding television might be considered as an independent variable and, perhaps, give us more significant insights into such a relationship.

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